IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Pentti Juhani Eromäki
Application No. 10/728,084
Filed: December 3, 2003
Confirmation No. 7665
For: INSTALLATION OF NON-ROUND ANTI-SLIP STUDS IN A VEHICLE TIRE
Examiner: Steven D. Maki
Art Unit: 1733
Attorney Reference No. 4447-67437-01

COMMISSIONER FOR PATENTS
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DECLARATION OF PENTTI EROMÄKI UNDER 37 C.F.R. § 1.132

I, Pentti Eromäki, declare as follows:

1. I am the sole inventor of the above-referenced application.

2. Nokian Tyres PLC (Nokian Tyres) is the assignee of the present application. From 1969 to August 31, 2007, I was employed by Nokian Tyres (Nokia, Finland), working in various positions in the manufacture of vehicle tires. From January 1, 1996 to 2007, I was Development Manager and Head of tire tread and stud design at Nokian Tyres. Prior to 1996 I held various positions at Nokian Tyres, including designer, work supervisor, and tire test technician. I retired from Nokian Tyres on August 31, 2007 and now work as an independent consultant in the field of tire and stud designing and tire testing.

3. I have read the present application and the Office Action dated December 31, 2007, in the present application. The Office Action rejected claims 1-42 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement because the limitation "said at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers

from the first stud orientation to a second, predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as said stud is driven through the stud capturing space" allegedly is not described in the application as filed. The Office Action also rejected claims 1-42 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement because the above limitation is not enabled by the application as filed.

4. The present invention concerns an installation tool for installing anti-slip studs having a non-round flange in a tire tread. A physical embodiment of the installation tool described in the application is shown in FIGS. 1 to 4 of Exhibit A attached hereto. The photographs 3 and 4 are taken before 22 October 2002, i.e. before preparing and filing of the priority application. The apparatus shown in Figs. 1-2 has not been changed since 22 October 2002. Referring to FIG. 1, a stud reservoir stores multiple tire studs and feeds the studs to the installation tool via a flexible tube or hose. In use, studs fall under gravity through the tube and into the installation tool. FIG. 2 is a close up view of the input opening in the installation tool that receives the studs from the feed hose. FIG. 3 and 4 are close up views of the jaw fingers for a specific type of stud showing also (by arrows) the circular output opening in the installation tool seen from the studs' output side of the tool. The inner diameter of the feed tube and the opening of the installation tool are larger than the width of the studs and the feed tube and the opening of the installation tool have a generally circular cross-sectional form so that the studs can fall freely under the force of gravity into the installation tool. This is "*axial feeding*" of the studs. Consequently, studs enter the installation tool at random positions with respect to the longitudinal center axis of the jaw fingers of the installation tool. The number of jaw fingers implemented in the installation depends on the particular shape of flange of the studs to be installed and is selected to cause a stud to be rotated with respect to the longitudinal center axis and with respect to the stud center line to a predetermined stud orientation as the stud is driven through the jaw fingers.

5. The studs may be also fed into the installation tool through other kind of systems, e.g. "*transversal feeding*", whereupon the studs are fed e.g. along guides that can be perpendicular to the longitudinal center axis of the jaw fingers. Here too, the studs enter the installation tool at random positions with respect to the longitudinal center axis of the jaw fingers of the installation tool, and the selected number of jaw fingers cause a stud to be rotated with respect to the

longitudinal center axis and with respect to the stud center line to a predetermined stud orientation, just as in the axial feeding. Because the feeding method does not have effect on the stud orientation, the various feeding methods were not described in the application.

6. The feature of the jaw fingers functioning to cause a stud to adopt a predetermined orientation as the stud is driven through the jaw fingers is disclosed in various passages of the present application, including: page 4, line 18 - page 7, line 20, page 8, line 4 - page 9, line 27, and page 18, line 19 - page 20, line 2, and especially page 16, lines 4-31 together with respective Figs. 15, 16A-16D. During movement of each single stud through the jaw fingers, see Fig. 16A to 16D, the jaw fingers move only radially, but force the stud, which is pressed downwards into between the jaw fingers, to rotate, if they not happen to be in the correct orientation, as disclosed in the application page 7, lines 16-17, 21-22, 26-27, page 8, lines 1-2, 5-6, 10-11, 17-18, page 10, lines 6-7 and page 18, lines 19-22. I.e. the jaw fingers are charged by the force F* against each other, and at the same time the studs are pushed by means of the plunger pin and by the force F between the jaw fingers and into the stud recess, whereupon the jaw finger force F* forces the stud to rotate between the jaw fingers into the specific orientation in respect to the tool, which orientation is determined by the specified shape of the stud in question and the respective specified number of jaw fingers, as evident from the application page 16, lines 4-31 and page 18, line 29 - page 20, line 2. Here it is question about the interaction between specified shape of the stud, the respective number of jaw fingers, the jaw finger force F* against each other and the plunger pin force F. Nothing else is needed in order to rotate the stud. Chapters page 16, lines 4-31 and page 18, line 19 - page 20, line 2 together with Figs. 16A-16D describe the key features of the orientative operation of the tool. During those steps when the jaw fingers are in positions shown in Figs. 16B-16D and the anti-slip stud is between these jaw fingers, the tool with said jaw fingers shall not be rotated in respect to the tire. A person of ordinary skill in the art would readily understand that the various embodiments of the installation tool disclosed in the application cause a stud to rotate about its longitudinal axis and assume a predetermined orientation as the stud is driven through the jaw fingers of the installation tool.

7. A person of ordinary skill in the art would also readily understand that the tool with the jaw fingers shall be assembled in correct (rotational) position before installation of studs

in order to enable that the studs pushed therethrough would be in the intended final orientation in respect to the tire, and that assembling the jaw fingers or turning the tool body with the jaw fingers so as to have the correct position of the tool prior to starting the stud installation work, is a different task, which has nothing common with the actual orientating rotation of studs between the jaw fingers. Chapter from page 20, line 3 - page 21, line 4 describes various ways to change the aimed final orientation: One way is to turn the tool while using same type of studs, whereupon studs in the orientation of Figs. 1B, 2 and 3B are attained with a first orientation of the tool, studs in the orientation of Figs. 1A are attained with a second orientation of the tool, and studs in the orientation of Figs. 3A are attained with a third orientation of the tool, as disclosed page 20, lines 3-15; Another way is to change to type of studs and keep the tool in the same orientation all the time, as disclosed page 20, line 19 - page 21, line 4.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Pentti Eromäki May 14, 2008

Pentti Eromäki Date

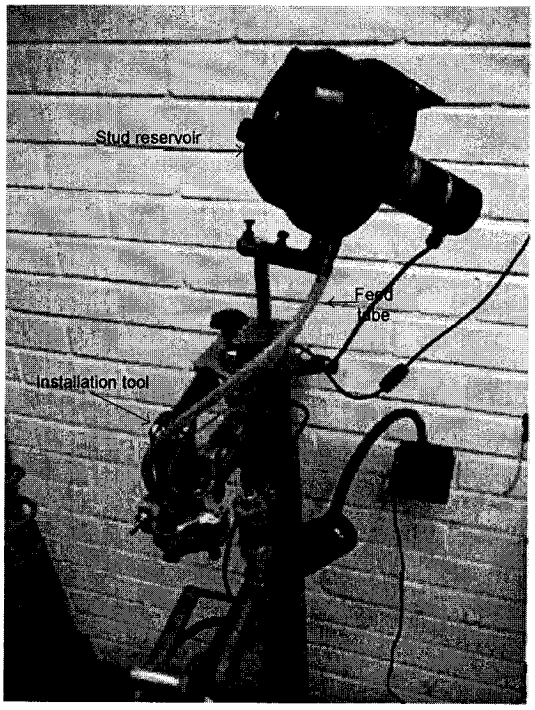

FIG. 1

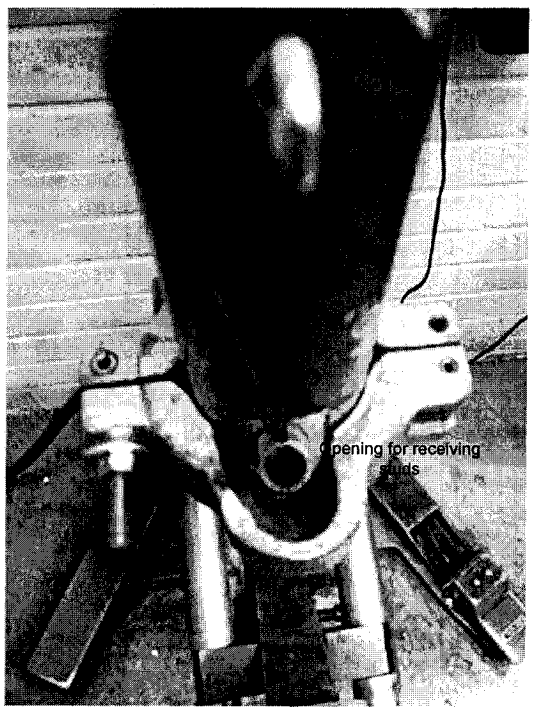

FIG. 2

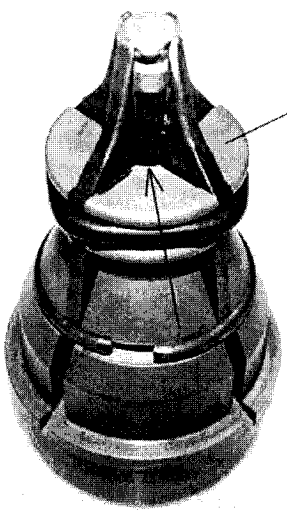

FIG. 3

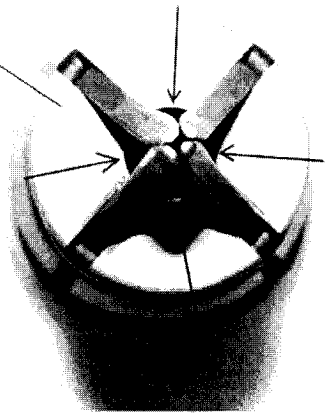

FIG. 4

Exhibit A